

RESPONSE UNDER 37 C.F.R. 1.116  
EXPEDITED PROCEDURE  
EXAMINING GROUP 1713

S/N 10/823,398

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	THOMAS H. QUINN	Examiner:	BERNARD LIPMAN
Serial No.:	10/823,398	Group Art Unit:	1713
Filed:	04/12/2004	Docket No.:	14369.0008USU1
Confirmation No.	3234		
Title:	LOW ODOR, LIGHT COLOR HOT PICK-UP ADHESIVE		

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DECLARATION OF THOMAS H. QUINN

I, Thomas H. Quinn, deposes and say as follows:

1. I graduated from Macalester College with a B.A. in Chemistry in 1973. I worked at the H.B. Fuller Company from 1973 to 2002 in various hot melt adhesive technical roles which included Product Development Chemist, Hot Melt R&D Department Head, and Hot Melt Research Fellow. I left the H.B. Fuller Company in 2002 to form Adherent Laboratories where I am currently President. Adherent Laboratories is an independent adhesives research & development, consulting, and testing laboratory.

2. I have reviewed the Examiner's Action dated April 20, 2005 and Horsey et al., U.S. Patent No. 5,128,397. The Examiner is relying on the Horsey et al. patent and argues that removing the polymer material from Horsey et al. does not change the fundamental properties of the adhesive and, as such, the term "consisting essentially of" does not differentiate the claimed adhesive from the adhesive in Horsey et al.

3. The Horsey patent discloses a general purpose adhesive with a typical formulation containing a polymer, tackifier, plasticizer and other components. Likely uses are for case and carton sealing. The polymer in Horsey provides much of the viscosity of the material and other adhesive properties needed in a general purpose hot melt. Removing the polymer will profoundly affect the properties of the blend such as open time.

4. The claimed subject matter in the application relates to an adhesive developed for "hot pick-up" applications. Such an application requires open time, viscosity and a softening point within a certain range. In use, the adhesive is placed into a label machine, the container at elevated temperature is contacted with the adhesive and then the adhesive layer on the container is brought into contact with a label stack at which time the label is adhered to the container. Having the incorrect viscosity and open time for the adhesive would cause this label system fail to operate.

5. The Horsey et al. adhesive is a general purpose case assembly adhesive in which the adhesive is used to assemble articles such as case and carton sealing and for other construction purposes. The adhesive is a very high strength, high viscosity, temperature resistant material having a unique stabilizing system to maintain the stability of the adhesive.

6. The Horsey et al. patent invention is about claims to various stabilizer combinations in a hot melt adhesive based on ethylene-vinyl acetate. The Horsey et al. patent states that the EVA is a "primary component" at Column 1, line 65 of the hot melt system. The primary example of the Horsey et al. patent uses approximately equal amounts of a DuPont Elvax 250 ethylene-vinyl acetate polymer, a tackifying resin and a plasticizer. Such a material would have a viscosity so high it would be a failure in hot pick-up applications. In these case and carton sealing and other construction, hot melt adhesives, at least 10% EVA is essential for obtaining flexibility, cohesive strength and impact resistance in a construction adhesive.

7. The characteristics of the adhesives in Horsey et al. are not helpful in hot pick-up applications. In a hot pick-up application, we have found that a "polymerless" hot pick-up adhesive requires no component that obtains flexibility, cohesive strength or impact resistance as

is typical in hot melt case and carton sealing or construction adhesives such as the Horsey et al. formulations. The desirable hot pick-up adhesives have little or no flexibility, cohesive strength or impact resistance. The adhesive is formulated in order that it has the appropriate viscosity and open time such that in a hot pick-up applicator, the appropriate amount of adhesive is transferred to the container such that the adhesive layer on the container picks up the label in an appropriate and successful manner.

8. The adhesives of the invention comprise a hydrogenated synthetic tackifier, oil and wax (see page 12 Table 2). Samples of two hot melts were made from the Horsey patent disclosure. The first is a 1/1/1 blend of EVA/resin/wax and the only formulation used by Horsey in all of their examples. The second 10/90 blend of EVA/wax is implied by Horsey in the specification where he says the amount of tackifier can extend to a maximum of 90%. In an EVA based product, this implies the remaining 10% is EVA. The properties of the Horsey et al. adhesive can be compared to the adhesives of the invention as follows:

Adhesive Component	Adherent	Horsey	Horsey
	Invention	Hot Melt	Hot Melt
Elvax 250	HPU	33.3	10
Arkon P90	75	33.3	90
WAX	15	33.3	
Oil	10		
Brookfield Viscosity (cP)			
225°F	440	20580	43300
250°F	200	12400	14000
Open Time Seconds to loss of Hot Tack (5g at 350°F in tin dish)	~200	<10	<10

9. As shown in the table, these two Horsey products are very different from the hot pick up adhesives (HPU's) of the claimed invention. They are much higher in melt viscosity, and have much shorter open times. Neither of these products could be applied as hot pick up labeling adhesives, and even if they could, they would not pick up a label due to insufficient open time.

10. In conclusion, for the application discussed in the Horsey et al. patent, the EVA component is an essential component providing important properties such as flexibility, cohesive strength and impact resistance. Further, the amount of EVA in the Horsey et al. makes the adhesive unsuitable for hot pick-up applications. The formulations of the patent have the viscosity and open time required for hot pick-up applications and do not have the flexibility, cohesive strength and impact resistance characteristics of case, carton and assembly adhesives such as that disclosed in Horsey et al. These applications are quite different in formulation and properties.

11. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 6-14-05

Thomas H. Quinn

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